

I claim:

1. A method of repairing concrete comprising:

- (A) creating an elongated slot in a wall of an existing concrete section generally parallel to said wall;
- (B) inserting an adhesive into said slot;
- (C) placing an insert into said slot, wherein said adhesive retains said insert within said slot; and
- (D) bonding said insert within said slot using said adhesive.

2. The method of claim 1, further comprising:

- pouring new concrete adjacent said wall to immerse said insert in said new concrete; and
- curing said new concrete so that said insert joins said existing concrete to said new concrete.

3. The method of claim 2, wherein said adhesive is added to said slot prior to inserting said insert.

4. The method of claim 2, wherein said adhesive is added to said slot after inserting said insert.

5. The method of claim 2, said insert having a non-cylindrical shape.

6. The method of claim 2, wherein said insert is formed from a composite material that is resistant to corrosion by water.
7. The method of claim 2, wherein step (C) further comprises forming said slot so that said insert extends generally longitudinally along said wall.
8. The method of claim 2, further comprising creating texture on an exterior of said insert to increase bonding of said adhesive and new concrete with said insert.
9. The method of claim 2, further comprising forming cavities in said insert to increase bonding of said adhesive and new concrete with said insert.
10. The method of claim 2, wherein step (A) further comprises cutting said slot in said wall with a rotary saw blade.
11. The method of claim 10, further comprising cutting said slot to have a shape generally approximating a shape of the rotary saw blade.
12. The method of claim 2, wherein step (C) further comprises placing said insert into said slot that generally follows a contour of said slot.
13. The method of claim 2, further comprising removing damaged concrete from said existing concrete to form a void and said wall in said existing concrete.

14. The method of claim 2, further comprising pouring said new concrete into an existing void.

15. An apparatus for joining a preexisting concrete section to a new concrete section, the apparatus comprising:

a generally flat, elongated insert having a body formed of a composite material, said insert including a first end that is bondable with said preexisting concrete section, and a second opposite end that is bondable with said new concrete section.

16. The apparatus of claim 15, wherein said insert has a generally flat and oblong shape.

17. The apparatus of claim 15, wherein said insert has at least one internal cavity formed therein that is configured to bond with at least one of the adhesive and the new concrete.

18. The apparatus of claim 15, wherein at least one exterior surface of said insert is textured to increase bonding of said insert with at least one of said adhesive and said new concrete.

19. The apparatus of claim 15, wherein said insert further comprises an extension configured for attachment to an external apparatus.

20. A method of joining a first concrete section to an adjacent second concrete section comprising:

- (A) creating a slot into said first and second concrete sections generally perpendicular to a joint disposed between said first and second concrete sections;
- (B) inserting an adhesive into said slot;
- (C) placing an insert into said slot; and
- (D) curing said adhesive to mechanically bond said first and second sections and said insert.

21. The method of claim 20, wherein step (A) further comprises cutting said slot into said first and second concrete sections with a saw blade.

22. The method of claim 21, wherein said cutting step further comprises cutting said slot to a shape that generally approximates a shape of the blade.

23. The method of claim 20, further comprising repeating steps (A) through (C) to install a plurality of inserts.

24. The method of claim 20, wherein said insert is formed from a composite material and has a body and at least one cavity to increase the bonding of said adhesive within said slots.

25. The method of claim 24, further comprising preventing the formation of air gaps within said slot during said placing step.

26. A joint repair for repairing a joint between an outer wall of a first concrete section and an adjoining outer wall of a second concrete section, the joint repair comprising:

an elongated slot disposed in said outer wall of said first concrete section;

an adhesive disposed within said slot; and

an insert partially disposed within said slot, and partially disposed within said second concrete section, wherein said slot is generally parallel to said joint.

27. The apparatus of claim 26, wherein said insert further comprises an extension configured for attachment to an external apparatus.

28. A method of repairing concrete comprising:

(A) creating an elongated slot in a wall of an existing concrete section generally parallel to said wall;

(E) inserting an adhesive into said slot;

(C) placing an insert into said slot, said insert having an extension extending from a surface thereof and configured for attachment to an external apparatus, and wherein said adhesive retains said insert within said slot; and

(D) attaching said external apparatus to said extension.

29. An apparatus used to attach an external fixture to a concrete section, the apparatus comprising comprising:

an insert having a body formed of a composite material, one portion that is bondable with said concrete section, and a second portion having an extension that is attachable to said external fixture.

30. The apparatus of claim 29, wherein said insert is generally flat and has an elongated shape.

31. The apparatus of claim 29, wherein said extension comprises threads and extends generally perpendicularly from said second portion.